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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,715	02/14/2002	Takafumi Hashiguchi	50073-055	9721
20277	7590	04/08/2004	EXAMINER	
MCDERMOTT WILL & EMERY 600 13TH STREET, N.W. WASHINGTON, DC 20005-3096			NGUYEN, DUNG T	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/049,715	HASHIGUCHI ET AL.	
	Examiner	Art Unit	
	Dung Nguyen	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 3-6, 8 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants' amendment dated 01/05/2004 has been received and entered. By the amendment, claims 1, 2 and 7 are still pending in the application; claims 3-6 and 8-9 are stand withdrawn from consideration.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2 and 7 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Shiga et al., US Patent No. 6,476,418, in view of Tsujimura et al., US Patent Application Publication No. 2001/0043292 A1, as stated in the previous office action.

Regarding claims 1-2, Shiga et al. disclose a liquid crystal display (LCD) device in which a thin film transistor (TFT) array substrate comprising:

- . a plurality of gate lines (102) formed on an insulating substrate (glass 101) includes a gate electrode;
- . a plurality of source lines (line includes electrode 106a);
- . a gate insulating film (103);
- . a thin film transistor formed by the gate electrode, a source electrode (106a) and a drain electrode (106b);

. a semiconductor layer (104), wherein a width of a crossing portion of the semiconductor layer that cross an edge line of the gate electrode (109) is smaller than that of the drain electrode (or channel width) (see figure 6A);

. a pixel electrode (107);

Regarding claim 7, a counter electrode substrate having a transparent electrode (i.e., counter electrode), a color filters as well as a liquid crystal layer interposed therebetween inherently forming in the LCD device.

Although Shiga et al. do not disclose a width of a crossing portion of a drain line that cross an edge line of the gate electrode is smaller than that of the drain electrode, Tsujimura et al. do disclose a drain electrode having a drain line (alternative by source electrode 14) which have a width that cross an edge line of the gate electrode (18) is smaller than that of the drain electrode (see figure 1). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to employ the Shiga et al. drain electrode having a drain line and the width of the drain line that cross the edge line of the gate electrode is smaller than that of the drain electrode as shown by Tsujimura et al. in order to minimizing a leakage current in a floating island region formed in a TFT (see Abstract).

Response to Arguments

3. Applicant's arguments filed 01/05/2004 have been fully considered but they are not persuasive:

. Applicants' arguments are as follow:

- a. Shiga's figure 6(a) does not illustrate that a width of a crossing portion of the semiconductor layer 104 that crosses an edge line of the gate electrode 102 is smaller than that of the drain electrode 106a (amendment, page 8).
- b. The 103(a) rejection is improper since the Examiner has not established a prima facie case of obviousness: no motivation, no reason to combine since Tsujimura et al. teach a thin film transistor (TFT) having a top gate structure while Shiga et al. teach a bottom gate structure. In addition, the combination fails to teach or suggest all of the limitations since Shiga et al. fails to disclose the width of the crossing portion of the semiconductor layer as claimed as stated in part a.

The Examiner's responses are as follow:

- a. The Examiner respectfully disagrees with Applicant's viewpoint. It should be noted that the semiconductor layer 104 includes photo carrier generating regions 109 (col. 3, lines 51-52); therefore, the width of a crossing portion of the semiconductor layer 104 that crosses an edge line of the gate electrode 102 (e.g., photo carrier generating regions 109) is smaller than that of the drain electrode 106a as claimed (figure 6a).
- b. The Examiner, again, respectfully disagrees with Applicant's viewpoint. In particular, Tsujimura et al. do disclose that the inventions can be applied to either a top-gate type TFT or a bottom-gate type TFT (see paragraph [0026]). Therefore, floating island regions can be formed either in the top-gate type TFT (e.g., Tsujimura et al TFT) or the bottom-gate type TFT (Shiga et al. TFT) and the motivation to combine would be applicable and combinable. In addition, as stated above in response part a, Shiga et al. do

teach the limitation of the width of the crossing portion of the semiconductor layer as claimed. Therefore, the combination does teach all limitations as claimed.

Accordingly, the limitation of claim 1 met.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2871

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DN
04/01/2004



Dung Nguyen
Primary Examiner
Art Unit 2871